What is claimed is:

1(currently amended). A direct sequence code division multiple access receiver comprising:

an adaptive filter controlled by an adaptive algorithm for filtering data which has been multiplied by a spreading code and filtered by a channel filter;

~~[,]~~

wherein the adaptive filter **has** ~~having~~ a length appropriate to model **an** ~~the~~ inverse of the channel filter; ~~[,]~~ and,

a multiuser detector operating on **an** ~~the~~ output of the adaptive filter, **wherein the adaptive filter is trained by new information at a chip rate at which chip rate the spreading code is input**.

2(original). A receiver according to claim 1, wherein the algorithm is trained using the signal of a desired user.

3(previously presented). A receiver according to claim 1, wherein the algorithm is trained using a composite signal from more than one user.

4(previously presented). A receiver according to claim 1, wherein the multiuser detector is of the minimum mean squared error type.

5(previously presented). A receiver according to claim 1, wherein the multiuser detector is of the zero forcing (decorrelating) type.

6(previously presented). A receiver according to claim 1, wherein the multiuser detector is of the Volterra type.

7(previously presented). A receiver according to claim 1, wherein the multiuser detector is of the Radial Basis Function type.

8(previously presented). A receiver according to claim 1, wherein the multiuser detector is of the cancellation type.

9(previously presented). A receiver according to claim 1, wherein the multiuser detector is of the near optimum decoding type.

10(previously presented). A receiver according to claim 1, wherein the algorithm comprises the least mean squares algorithm.

11(previously presented). A receiver according to claim 1, wherein the algorithm comprises the recursive least squares algorithm.

12(previously presented). A receiver according to claim 1, wherein the algorithm comprises the fast a-posteriori or sequential technique algorithm.

13(previously presented). A receiver according to claim 1, wherein the algorithm comprises the stabilised fast a-posteriori error sequential technique algorithm.

14(previously presented). A receiver according to claim 12, wherein said algorithm is used in combination with the Fast Newton algorithm.

15(previously presented). A receiver according to claim 13, wherein said algorithm is used in combination with the Fast Newton algorithm.

Claim 16 is canceled.